

What is claimed is:

1. A composition comprising the product prepared by heating together:
 - (a) a dispersant and
 - 5 (b) 2,5-dimercapto-1,3,4-thiadiazole or a hydrocarbyl-substituted 2,5-dimercapto-1,3,4-thiadiazole which is substantially insoluble in a hydrocarbon oil of lubricating viscosity at 25°C, and further either
 - (c) a borating agent or
 - (d) an inorganic phosphorus compound, or both (c) and (d),
- 10 said heating being sufficient to provide a reaction product of (a), (b), and (c) or (d) which is soluble in said hydrocarbon oil at 25°C.
2. The composition of claim 1 wherein the dispersant is a succinimide dispersant.
3. The composition of claim 1 wherein the dispersant is a Mannich
- 15 dispersant.
4. The composition of claim 1 wherein the dispersant is an ester-containing dispersant.
5. The composition of claim 1 wherein the dispersant is a viscosity modifier containing dispersant functionality.
- 20 6. The composition of claim 1 wherein component (b) is 2,5-dimercapto-1,3,4-thiadiazole.
7. The composition of claim 1 wherein component (b) is a hydrocarbyl-substituted 2,5-dimercapto-1,3,4-thiadiazole wherein the hydrocarbyl group or groups contain a total of less than about 8 carbon atoms.
- 25 8. The composition of claim 1 wherein the borating agent is an inorganic borating agent.
9. The composition of claim 1 wherein the borating agent is boric acid.
10. The composition of claim 1 wherein the inorganic phosphorus compound is phosphoric acid, phosphorous acid or an anhydride thereof.
- 30 11. The composition of claim 1 wherein both the borating agent and the inorganic phosphorus acid or anhydride have been heated with the remaining components.
12. The composition of claim 1 wherein the components have been heated together at about 80 to about 200°C for at least about 0.5 hours.
- 35 13. The composition of claim 1 wherein the components have reacted as evidenced by the evolution of H₂S or H₂O.

14. The composition of claim 1 wherein the components are heated together in a hydrophobic medium.

15. The composition of claim 14 wherein the hydrophobic medium is an oil of lubricating viscosity.

5 16. The composition of claim 15 wherein the oil of lubricating viscosity is retained in the composition of matter.

17. The composition of claim 1 wherein the relative amounts, by weight, of components (a), (b), (c), and (d), prior to heating, are about 100 of (a): (0.75 to 6 of (b)) : (0 to 7.5 of (c)) : (0 to 7.5 of (d)), provided that the relative amount
10 of (c) + (d) combined is at least about 0.075.

18. The composition of claim 1 wherein the relative amounts, by weight, of components (a), (b), (c), and (d), prior to heating, are about 100 of (a): (1.5 to 3 of (b)) : (0 to 4.5 of (c)) : (0 to 4.5 of (d)), provided that the relative amount of (c) + (d) combined is at least about 1.5.

15 19. The composition of claim 1 wherein the composition comprises about 0.5 to about 2.5 percent by weight S derived from component (b) and either about 0.2 to about 0.6 percent by weight B from component (c), or about 0.3 to about 1.1 percent by weight P from component (d), or said amounts from both components (c) and (d), on an oil free basis.

20 20. A composition comprising an oil of lubricating viscosity and the reaction product of claim 1.

21. The composition of claim 20 wherein the amount of the reaction product is about 0.5 to about 90 percent by weight of the composition.

22. The composition of claim 21 wherein the amount of the composition
25 within the oil-containing composition is about 0.5 to about 5 percent by weight.

23. The composition of claim 21 wherein the amount of the composition within the oil-containing composition is about 20 to about 90 percent by weight.

24. A method for lubricating a mechanical device, comprising supplying thereto the composition of claim 20.

30 25. The method of claim 24 wherein the mechanical device is an internal combustion engine.

26. The method of claim 24 wherein the mechanical device is an automatic transmission.